(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 14 April 2005 (14.04.2005)

PCT

(10) International Publication Number WO 2005/032486 A2

(51) International Patent Classification7:

A61K

(21) International Application Number:

PCT/US2004/032710

(22) International Filing Date: 4 October 2004 (04.10.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/508,145

2 October 2003 (02.10.2003)

- (71) Applicant (for all designated States except US): DUKE UNIVERSITY [US/US]; Office of Science and Technology, P.O. Box 90083, Durham, NC 27708 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): LI, Chuan-Yuan [US/US]; 300 Pebble Springs Road, Chapel Hill, NC 27514 (US). ZHANG, Xiuwu [US/CN]; 100 Downing Bluff Drive, Morrisville, NC 27560 (US). DEWHIRST, Mark, W. [US/US]; 3610 Bran View Place, Durham, NC 27705 (US).
- (74) Agent: TAYLOR, Jr., Arles, A.; Jenkins & Wilson, P.A., Suite 1400, University Tower, 3100 Tower Boulevard, Durham, NC 27707 (US).

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

 without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A NOVEL SIRNA-BASED APPROACH TO TARGET THE HIF-α FACTOR FOR GENE THERAPY

Addition Addition HIF-

HIF-1α,120 kD



(57) Abstract: The presently disclosed subject matter provides vectors that encode small interfering RNAs (siRNAs) designed to down regulate the expression of hypoxia-inducible genes in a cell. Also provided are compositions and host cells based upon the vectors, as well as methods of using the vectors. The presently disclosed subject matter further provides a method of inhibiting tumor growth infecting cells in a tumor with an adenovirus vector that encodes an siRNA directed against the hypoxia-inducible factor 1α (H IF- 1α) gene.

